

PATENT
Docket No. 0050-0153

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:)
Hidetaka ITO)
Serial No.: 10/038,655) ATTN: Appeal Brief - Patents
Filed: January 8, 2002) Group Art Unit: 2154
For: SWITCHING OF PVC CONNECTION) Examiner: D. Nguyen

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REPLY BRIEF UNDER 37 C.F.R. § 41.41

This Reply Brief is submitted in response to the Examiner's Answer, mailed April 10, 2007.

RESPONSE TO ARGUMENTS SECTION OF EXAMINER'S ANSWER

A. With Regard to the Rejection Under 35 U.S.C. § 102(e) Over Yamada et al. (U.S. Patent Publication No. 2003/0137933).

In the "Response to Argument" section of the Examiner's Answer (pages 8-13), the Examiner relied on sections of the Yamada et al. document that have not been relied on before in rejecting Appellant's claims. Appellant objects to the Examiner introducing these new sections of Yamada et al. for the first time in the Examiner's Answer, particularly since the Examiner has relied on Yamada et al. in at least two prior Office Actions (e.g., Office Action, dated November

7, 2005; and Office Action, dated May 1, 2006) and has had ample opportunities to introduce these new sections. Nevertheless, Appellant will address each of the new sections raised by the Examiner in the Examiner's Answer.

1. Claims 1 and 2.

In the Appeal Brief, Appellant explained why Yamada et al. does not disclose or suggest setting a plurality of PVC connections and individually corresponding controlling connections between two exchanges of a communication network, as recited in claim 1. Appeal Brief, pages 8-13. The Examiner's approach to addressing this feature of claim 1 is to point to various different embodiments in the Yamada et al. document and when Appellant explains how these embodiments do not address the feature of claim 1, the Examiner points to yet other embodiments in the Yamada et al. document. Appellant submits that none of these various different embodiments disclose or suggest setting a plurality of PVC connections and individually corresponding controlling connections between two exchanges of a communication network, as recited in claim 1.

In the Examiner's Answer, the Examiner alleged:

Specifically, Yamada reference relates to a line backup method and system in an ATM (Asynchronous Transfer Mode) network and to a line switchover method and a system for performing line switchover in the event of a line failure between exchange units [paragraphs 0002 and 0008]. In Figure 1, Yamada discloses two exchanges A and B, and two connecting lines X and Y. Each of lines X, Y includes VPI (virtual path identifier) and VCI (virtual circuit identifier) [Figures 2 and 26A and B; and paragraphs 0081, 0151 and 0152]. So Examiner interprets that as a plurality of PVC connections as claimed. Then, Yamada discloses a control PVC [i.e. a dark double headed arrow] for detection of a failure on the line X is set up on the line X [Figure 1; and paragraph 0041, lines 15-17]. Also, Yamada shows each control PVC [i.e. a dark double headed arrow] for each connecting line of plurality of connecting lines [Figure 7; and paragraph 0056]. So, Examiner interprets as individual corresponding controlling connections as claimed. Thus, Yamada discloses a plurality of PVC connections and individual corresponding controlling connections, and as such rendering the claimed language as written, unpatentable over the prior art of record.

Examiner's Answer, pages 9-10. Appellant submits that none of the sections identified by the Examiner supports the Examiner's allegation.

In Figure 1, Yamada et al. shows two exchanges (A) and (B) and two lines (X) and (Y) connected between the two exchanges. Yamada et al. also shows a single control PVC "for detection of a failure on the line X." Paragraph 0041. The Examiner alleged that lines (X) and (Y) correspond to "a plurality of PVC connections" and the control PVC corresponds to "individually corresponding controlling connections." Examiner's Answer, pages 9-10. The Examiner's allegation lacks merit because Figure 1 only shows a control PVC for line (X), NOT for line (Y). Therefore, Figure 1 of Yamada et al. does not show or suggest setting a plurality of PVC connections and individually corresponding controlling connections between two exchanges of a communication network, as recited in claim 1.

The Examiner alleged that Yamada et al. shows a control PVC for each connecting line of a plurality of connecting lines and cited Figure 7 and paragraph 0056 of Yamada et al. for support. Examiner's Answer, page 10. Appellant notes that the Examiner is not addressing the feature of claim 1. Claim 1 does not recite a control PVC for each connecting line of a plurality of connecting lines. Instead, claim 1 specifically recites setting a plurality of PVC connections and individually corresponding controlling connections between two exchanges of a communication network. Yamada et al. does not disclose or suggest this feature of claim 1.

In Figure 7 and with regard to paragraph 0056, Yamada et al. discloses that a connection on a line connecting two exchange units is switched over to a reserve connection passing through a third exchange unit. In Figure 7, Yamada et al. shows a single line connecting exchanges (A) and (D) and a single line connecting exchanges (A) and (C). Therefore, nowhere in connection

with Figure 7 does Yamada et al. disclose or suggest setting a plurality of PVC connections and individually corresponding controlling connections between two exchanges of a communication network, as recited in claim 1.

For at least the foregoing reasons and for those reasons presented in the Appeal Brief, Appellant submits that the rejection of claims 1 and 2 under 35 U.S.C. § 102(e) based on Yamada et al. is improper. Accordingly, Appellant requests that the rejection of claims 1 and 2 be reversed.

2. Claim 4.

In the Appeal Brief, Appellant explained why Yamada et al. does not disclose or suggest controlling connections that are set by an operation administration and maintenance function, as recited in claim 4. Appeal Brief, pages 14-16.

In the Examiner's Answer, the Examiner alleged:

Yamada discloses a control PVC [i.e. dark double headed arrow] for detection of a failure on the line X is set up for the line X [Figure 1; and paragraph 0041, lines 15-17], and to detect the occurrence of a failure and switch the connection, a VC (Virtual circuit) AIS (Alarm Indication Signal) OAM (Operation Administration and Maintenance) cell is used [paragraph 0005]. Furthermore, Yamada discloses that the communication line with the exchange unit at the remote end is monitored for the occurrence of a failure by sending a periodic communication cell to the other exchange unit by using a control connection set up between the exchange unit, and returns a response cell when a periodic communication cell is received from the other exchange unit [paragraphs 0099]. Thus, Yamada clearly discloses controlling connections that are set by an operation administration and maintenance function, and as such rendering the claimed language as written, unpatentable over prior art of record.

Examiner's Answer, page 11. Appellant submits that none of the sections identified by the Examiner supports the Examiner's allegation.

In paragraph 0005, Yamada et al. discloses:

A connection-by-connection switchover control method for Virtual Channels (VCs) is disclosed in Japanese Unexamined Patent Publication No. 9-93260. However, since this

method uses a VC AIS (Alarm Indication Signal) OAM cell to detect the occurrence of a failure and switch the connection, if transmission/reception of the OAM signal becomes impossible because of the failure, the switchover operation cannot be performed.

In this section, Yamada et al. refers to a prior art technique that uses a virtual channel (VC) alarm indication signal (AIS) operation administration and maintenance (OAM) cell to detect the occurrence of a failure. Yamada et al. discloses disadvantages of using OAM cells to perform a switchover. Paragraphs 0005-0006. Therefore, contrary to the Examiner's allegation, Yamada et al. does not disclose controlling connections that are set by an operation administration and maintenance function, as required by claim 4, but instead *teaches away* from this feature.

In paragraph 0099, Yamada et al. discloses:

The periodic communication processing block A1 or B1 in each exchange unit sends a periodic communication cell to the other exchange unit by using a control connection set up between the exchange units, and returns a response cell when a periodic communication cell is received from the other exchange unit. By performing the periodic communication, the communication line with the exchange unit at the remote end is monitored for the occurrence of a failure.

In this section, Yamada et al. discloses that the periodic communication processing blocks (A1) and (B1) send a periodic communication cell to the other exchange unit using a control connection set up between the exchange units. Contrary to the Examiner's allegation, nowhere in this section, or elsewhere, does Yamada et al. disclose or suggest controlling connections that are set by an operation administration and maintenance function, as recited in claim 4. Instead, as explained above, Yamada et al. specifically *teaches away* from an operation administration and maintenance function.

For at least the foregoing reasons and for those reasons presented in the Appeal Brief, Appellant submits that the rejection of claim 4 under 35 U.S.C. § 102(c) based on Yamada et al. is improper. Accordingly, Appellant requests that the rejection of claim 4 be reversed.

3. Claim 5.

In the Appeal Brief, Appellant explained why Yamada et al. does not disclose or suggest that each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connections, as recited in claim 5. Appeal Brief, pages 17-19.

In the Examiner's Answer, the Examiner alleged:

Yamada discloses a control PVC [i.e. dark double headed arrow] for detection of a failure on the line X is set up for the line X [Figure 1; and paragraph 0041, lines 15-17], and to detect the occurrence of a failure and switch the connection, a VC (Virtual circuit) AIS (Alarm Indication Signal) OAM (Operation Administration and Maintenance) cell is used [paragraph 0005]. Furthermore, Yamada discloses that the periodic communication processing sends out a periodic communication cell to the exchange unit at the remote end by using the control connection connected to the remote unit, and if the response cell is not received within the prescribed time, the periodic communication processing sends a periodic communication no-response notification to the line failure detection block [Figures 12A and 12B; and paragraphs 0103-0106]. Therefore, Yamada clearly discloses each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connection, and as such rendering the claimed language as written, unpatentable over the prior art of record.

Examiner's Answer, page 12. Appellant submits that none of the sections identified by the Examiner supports the Examiner's allegation.

In paragraph 0005, as explained in the Appeal Brief, Yamada et al. refers to a prior art technique that uses a virtual channel (VC) alarm indication signal (AIS) operation administration and maintenance (OAM) cell to detect the occurrence of a failure. Yamada et al. discloses disadvantages of using OAM cells to perform a switchover. Paragraphs 0005-0006. Therefore, contrary to the Examiner's allegation, Yamada et al. does not disclose that each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connections, as required by

claim 5, but instead *teaches away* from this feature.

In Figures 12A and 12B and with regard to paragraphs 0103-0106, Yamada et al. discloses:

The above switchover operation will be described with reference to FIGS. 12A and 12B. The flowchart shown here is common to both exchange units A and B. The following description deals with the operation at the exchange unit A. First, the periodic communication processing block A1 sends out a periodic communication cell to the exchange unit at the remote end by using the control connection connected to the remote unit (S1). In response to the periodic communication cell, a response cell should be returned from the remote unit; therefore, it is checked whether a response cell is received within a prescribed time (S2).

If the response cell is not received within the prescribed time, the periodic communication processing block A1 sends a periodic communication no-response notification to the line failure detection block A2 (S3). The line failure detection block A2 checks whether the notification has been received more than a prescribed number of times from the periodic communication processing block A1 (S4); if the no-response notification has been received more than the prescribed number of times, the line failure detection block A2 determines that a failure has occurred on the communication line, and retrieves backup connection information data by indexing into the terminating connection management table A6 using the failed line number (S5).

If the desired data is retrieved (S6), the terminating connection Ac on the failed line is cut off (S7), and the terminating connection Af on the reserve line is set up (S8). Next, backup connection information data is retrieved by indexing into the relay connection management table A5 using the failed line number (S9). If the desired data is retrieved (S10), the relay connection Aa on the failed line is cut off (S11), and the relay connection Ab on the reserve line is set up (S12).

In this way, according to the present invention, a line failure can be detected on a line-by-line basis by detecting a periodic communication off condition, and all affected connections can be automatically switched to the reserve line.

In these sections, Yamada et al. discloses that an exchange unit sends a periodic communication cell to another exchange unit and, if a response cell is not received from the other exchange unit within a prescribed time and this has occurred more than a prescribed number of times, then the exchange unit determines that a failure has occurred on the communication line. Nowhere in these sections, or elsewhere, does Yamada et al. disclose or suggest that each of the exchanges

detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connections, as recited in claim 5. Instead, as explained above, Yamada et al., specifically *teaches away* from using an alarm indication signal cell of an operation administration and maintenance function.

For at least the foregoing reasons and for those reasons presented in the Appeal Brief, Appellant submits that the rejection of claim 5 under 35 U.S.C. § 102(e) based on Yamada et al. is improper. Accordingly, Appellant requests that the rejection of claim 5 be reversed.

4. Claims 7, 9, 10, and 18.

In the Appeal Brief, Appellant explained why Yamada et al. does not disclose or suggest setting a bypassing PVC connection prepared in advance for bypassing of a master PVC connection and a bypassing side OAM connection corresponding to the bypassing PVC connection between first and second exchanges, as recited in claim 7. Appeal Brief, pages 19-22.

In the Examiner's Answer, the Examiner alleged:

Yamada discloses a system and method for a line connection to automatically switchover to a reserve connection in the event of line failure [Abstract; Figure 1; and paragraph 0002]. In that, Yamada teaches that the relay connection management tables and terminating connection management tables are set up in advance from the maintenance consoles to set a line to be backed up, a reserve lines as a backup line, and connections to be backed up on the line [i.e. setting a bypassing PVC connection prepared in advance for bypassing of a master PVC connection as claimed] [Figure 11; and paragraphs 0098, 0108, and 0119]. In addition, as mentioned above in point 1, Yamada discloses the system performs the setting up process of switching over to reserve connections between lines A to D and D to C [paragraphs 0058-0066]. And as shown in Figure 7 of Yamada, each of these back up or reserve connection also has a dark double headed arrow [i.e. control PVC]. Therefore, Yamada teaches setting up a bypassing side OAM connection corresponding to the bypassing PVC connection as claimed, and as such rendering the claimed language as written, unpatentable over the prior art of record.

Examiner's Answer, page 13. Appellant submits that none of the sections identified by the

Examiner supports the Examiner's allegation.

With regard to Figure 7, Yamada et al. discloses that a connection on a line connecting two exchange units is switched over to a reserve connection passing through a third exchange unit. In Figure 7, Yamada et al. shows a single line connecting exchanges (A) and (D) and a single line connecting exchanges (A) and (C). Therefore, nowhere in connection with Figure 7 does Yamada et al. disclose or suggest setting a master PVC connection and master side OAM connection **AND** a bypassing PVC connection and bypassing side OAM connection between first and second exchanges, as required by claim 7.

For at least the foregoing reasons and for those reasons presented in the Appeal Brief, Appellant submits that the rejection of claims 7, 9, 10, and 18 under 35 U.S.C. § 102(e) based on Yamada et al. is improper. Accordingly, Appellant requests that the rejection of claims 7, 9, 10, and 18 be reversed.

B. With Regard to the Rejection Under 35 U.S.C. § 103(a) Over Yamada et al. (U.S. Patent Application Publication No. 2003/0137933) in View of Heeren et al. (U.S. Patent No. 6,311,288).

1. Claim 3.

In the Appeal Brief, Appellant explained why Yamada et al. and Heeren et al., whether taken alone or in any reasonable combination, do not disclose or suggest that if, while the bypassing PVC connection is used, it is detected that the currently used PVC connection has been released through the corresponding controlling connection, then each of the exchanges switches the operative PVC connection to the currently used PVC connection, as recited in claim 3. Appeal Brief, pages 31-33.

The Examiner admitted that Yamada et al. does not disclose the features of claim 3.

Examiner's Answer, page 7. The Examiner alleged, however, that Heeren et al. discloses the features of claim 3. Examiner's Answer, page 7. In the Appeal Brief, Appellant explained how Heeren et al. fails to disclose or suggest a controlling connection and, therefore, could not disclose or suggest that if, while the bypassing PVC connection is used, it is detected that the currently used PVC connection has been released through the corresponding controlling connection, then each of the exchanges switches the operative PVC connection to the currently used PVC connection, as recited in claim 3. Appeal Brief, pages 31-33. In the Examiner's Answer, the Examiner still did not provide any evidence that Heeren et al. discloses a controlling connection, let alone that if, while the bypassing PVC connection is used, it is detected that the currently used PVC connection has been released through the corresponding controlling connection, then each of the exchanges switches the operative PVC connection to the currently used PVC connection, as recited in claim 3. Examiner's Answer, page 14.

For at least the foregoing reasons and for those reasons presented in the Appeal Brief, Appellant submits that the rejection of claim 3 under 35 U.S.C. § 103(a) based on Yamada et al. and Heeren et al. is improper. Accordingly, Appellant requests that the rejection of claim 3 be reversed.

CONCLUSION

In view of the foregoing arguments and the arguments presented in the Appeal Brief, Appellant respectfully solicits the Honorable Board to reverse the Examiner's rejections of claims 1-18 under 35 U.S.C. §§ 102 and 103.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is

REPLY BRIEF

PATENT

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Respectfully submitted,
HARRITY SNYDER, LLP

/Paul A. Harrity/

Paul A. Harrity

Reg. No. 39,574

Date: June 7, 2007
11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800
Customer No. 44987